

Chapter I. Education and Training

Classification Systems

This chapter of the Occupational Projections and Training Data (OPTD) explains the Bureau's two education and training classification systems, which together categorize the more than 750 occupations for which employment projections are published by the level of education or training generally required or attained by people in those occupations. The first system assigns occupations to 1 out of 11 education and training categories that represents the most significant source of postsecondary education or training needed to become proficient in that occupation. This education and training category system, first used during the development of the 1994–2005 employment projections, is an important source for career advice on individual occupations. However, the information it presents often is misinterpreted and has unintentionally resulted in misleading information about the educational requirements of projected employment growth. This problem led to the creation of a second classification system, first described in Chapter I of the 2004–05 edition of the OPTD.

The second system, the educational attainment clusters system, is a more data-driven analytical product that describes the educational attainment of 25- to 44-year-olds in each of the occupations for which employment projections are prepared. The data in this system provide important information that complements the most significant single source of postsecondary education or training category assigned by BLS analysts. The data also make for a more complete picture of the education and training requirements for each occupation. The clusters in the system are used to construct estimates of the number of projected jobs that will be filled by those with a high school diploma or less, those with some college, and those with a bachelor's degree or higher. High-wage, high-growth occupations for the 2004–14 projection period are presented in table I–5, sorted by educational attainment cluster.

Understanding the 11 education and training categories

BLS identifies 11 education and training categories that describe, for each occupation, the most significant postsecondary education or training pathway to employment in that occupation. To assign occupations to these categories, BLS economists acquire a considerable body of knowledge about occupations on the basis of data from both the Bureau itself and other government and private organizations, as well as through interviews with representatives of professional and trade associations, with representatives of unions, and with educators and training experts, among other sources. For some occupations, such as physicians and lawyers, the edu-

cation and training preparation is straightforward, because it is established by government laws and regulations. For other occupations, such as computer programmers or industrial machinery repairers, jobs may vary considerably in their educational and training requirements. When an occupation has more than one path of entry, BLS identifies the one that research suggests is most preferred by employers.

The 11 categories of postsecondary education or training are as follows:

1. First professional degree
2. Doctoral degree
3. Master's degree
4. Bachelor's or higher degree, plus work experience
5. Bachelor's degree
6. Associate degree
7. Postsecondary vocational award
8. Work experience in a related occupation
9. Long-term on-the-job training
10. Moderate-term on-the-job training
11. Short-term on-the-job training

(For a more detailed discussion of these categories see chapter IV, page 42.) By construction, these categories are intended to be mutually exclusive and exhaustive. The order in which the categories are listed, from top to bottom, reflects a range from highest to lowest entry requirements. The category system is simple and easy to understand and to use in providing career advice.

What this classification system does not tell us, however, is the extent to which there may be multiple paths of entry into an occupation. For example, the moderate and long-term on-the-job training categories often have been misinterpreted as being aimed primarily at those whose highest degree is a high school diploma. Although this may be true to a large degree, it can be misleading as to the educational hiring preferences of employers. In any number of occupations that put a new employee through lengthy on-the-job training, it is not uncommon to find that employers typically try to hire individuals with at least some college education (or even a bachelor's degree). The point is that the link to the educational attainment preferences of employers is not simple and automatic. To get a better description of the educational demands of a particular occupation, a second measure is necessary.

The educational attainment cluster system

The educational attainment cluster system categorizes occu-

pations on the basis of educational attainment of 25- to 44-year-olds working in the occupation, as reflected in data from the Current Population Survey (CPS). (See “The educational attainment distribution of occupations: A note on methodology” on page 6). The system provides a natural hierarchical sorting of occupations that reflects increasing levels of skill, education, and training. It also allows for occupations to fall into more than one category at a time; such occupations are called “mixture” occupations.

Educational attainment data for 25- to 44-year-olds are used instead of a broader sample of ages because the educational attainment of younger workers in a given occupation often is higher than that of older workers, who may have entered the occupation when requirements were lower. Because one of the basic purposes of the employment projections program is to provide career advice, the educational attainment of newer entrants in an occupation is more useful.

In this system, occupations are grouped on the basis of the percentage of workers who have a high school diploma or less, some college or an associate degree, or a college diploma (bachelor’s degree) or higher. In accordance with the percentage of workers falling into each of these three educational levels, the occupation is assigned to one of six education clusters. For example, within an occupation, if more than 60 percent of workers have a high school diploma or less, less than 20 percent have some college or an associate degree, and no more than 20 percent have a bachelor’s degree or higher, that occupation is considered a high school (HS) occupation. However, if more than 20 percent have a high school degree or less, more than 20 percent have attended some college or held an associate degree, and less than 20 percent have a bachelor’s degree or higher, the occupation is considered to be a high school/some college (HS/SC) occupation. Twenty percent was determined to be the key level of significance in classifying these occupations. (See “The educational attainment distribution of occupations: A note on methodology” on page 6.) On the basis of this system, occupations were put into one of the six education clusters shown in exhibit 1.

The addition of information on the distribution of educational attainment for each occupation highlights the fact that often there are multiple pathways into an occupation. For example, according to 2002–04 CPS data, 51.4 percent of electricians aged 25 to 44 years are high school graduates whereas 42.8 percent have some college or more as their highest level of educational attainment. Besides being more data driven, this educational cluster system, which assigns electricians to the high school/some college (HS/SC) cluster, has the advantage of being able to capture this split. However, it has the disadvantage of being less able to address the role that knowledge and skills acquired outside the formal education system play in career preparation. In this respect, the category classification system, which puts electricians into the long-term on-the-job training category, better addresses the skill requirements needed for a job. But that system often is misinterpreted to imply that the job requires only a high school education when in many cases it actually requires more. For

a full listing of the postsecondary education or training categories and education cluster assignments for all 754 detailed National Employment Matrix occupations, see table IV–1 in Chapter IV of this edition of OPTD.

Projecting education and training requirements

How many jobs are projected to be filled by those with a high school diploma or less, those with some college, and those with a bachelor’s degree or higher? The use of the education cluster system allows us to make these projections confidently. Although challenging, the methodology accompanying the estimates is transparent and will provide the user with the freedom to test the sensitivity of the results to alternative specifications.

The educational attainment cluster system allows for projections by the 6 education clusters, as well as by the 3 major education groups (high school or less, some college, bachelor’s degree or higher). To produce projections by educational attainment cluster, all 754 detailed occupations were assigned to one of the 6 clusters. The employment projections of each of these occupations were combined, and the results are presented in table I–1, which shows that an increasing number of jobs are expected to be filled by those with some college or more and that fewer jobs will be filled by those with a high school degree or less. Specifically, 12.8 percent of jobs in 2014 are projected to be filled by those with a high school degree or less, down from 13.2 percent in 2004. In contrast, a greater number of jobs in 2014 will be filled by those with mainly a college degree or higher: 12.4 percent, versus 11.6 percent in 2004. Still, the highest proportion of jobs in both 2004 and 2014, 46.7 percent and 45.4 percent,

Exhibit 1. Definitions of education clusters

Education cluster	Percent of employees aged 25 to 44 in the occupation whose highest level of educational attainment is—		
	High school or less	Some college (including associate degree)	Bachelor's degree or higher
High school occupations (HS)	Greater than or equal to 60 percent	Less than 20 percent	Less than 20 percent
High school/some college occupations (HS/SC)	Greater than or equal to 20 percent	Greater than or equal to 20 percent	Less than 20 percent
Some college occupations (SC)	Less than 20 percent	Greater than or equal to 60 percent	Less than 20 percent
High school/some college/college occupations (HS/SC/C)	Greater than or equal to 20 percent	Greater than or equal to 20 percent	Greater than or equal to 20 percent
Some college/college occupations (SC/C)	Less than 20 percent	Greater than or equal to 20 percent	Greater than or equal to 20 percent
College occupations (C)	Less than 20 percent	Less than 20 percent	Greater than or equal to 60 percent

respectively, falls into the high school/some college (HS/SC) category.

This educational attainment cluster system also serves as the basis for projecting the number of jobs that fall into the 3 major educational attainment groups. The system is used to define the proportion of jobs within each cluster that require a high school diploma or less, some college, or a bachelor's degree or higher. Projected employment change in an occupation is assigned to the 3 groups on the basis of the education cluster assigned to the occupation. If the occupation is a high school (HS), some college (SC), or college (C) occupation, all jobs are projected to require this level of educational attainment. If the occupation is a "mixture occupation," projected jobs are distributed on the basis of the existing ratio of workers that fall into the educational attainment groups making up the cluster.

For example, for college (C) occupations (those with 60 percent or more having a bachelor's degree or higher), it is assumed that all jobs in the occupation require a college degree. The assignments of jobs for high school occupations and for occupations requiring some college are similarly defined. For a mixture occupation, such as some college/college (SC/C), it is assumed that all jobs in the cluster either require some college or a bachelor's degree or higher. To calculate the number of "some college" jobs in the occupation, one computes the ratio of the number of employees in that occupation who have some college to the number of employees who have some college or a bachelor's degree or higher. The number of "some college" jobs in the occupation is the value of this ratio, multiplied by the employment level of the occupation. (This procedure also is applied to the other mixture occupations).

The employment level used depends on the period of interest. In this analysis, the technique is applied to National Employment Matrix data for 2004, as well as projected data for the 2004–14 period.

Exhibit 2. Assignment of educational attainment groups

Education cluster	Proportion of projected jobs assigned to three educational attainment groups
HS jobs	All projected jobs are considered "high school" jobs.
HS/SC jobs	Projected jobs are assigned to "high school" or "some college" on the basis of the 2004 proportion of workers in the cluster with a high school degree or less or with some college.
SC jobs	All projected jobs are considered "some college" jobs.
HS/SC/C jobs	Projected jobs are assigned to all three groups on the basis of the 2004 proportion of workers in the cluster with each level of educational attainment.
SC/C jobs	Projected jobs are assigned to "some college" or "college" on the basis of the 2004 proportion of workers in the cluster with some college or with a college degree or higher.
C jobs	All projected jobs are considered college jobs.
HS/C	Projected jobs are treated the same as HS/SC/C jobs.

Exhibit 2 summarizes how employment growth is assigned to the three educational attainment groups of high school or less (high school), some college (some college), and bachelor's degree or higher (college) with the educational attainment cluster classification system.

Now, what does this assignment method reveal about the projections of employment by educational attainment over the 2004–14 period? Table I–2 answers this question. The projected change in employment for each of the 754 detailed occupations was assigned to the three educational attainment groups (high school or less, some college, and bachelor's degree or higher), and table I–2 shows that, among the three

Table I–1. Employment and total job openings by six education clusters, 2004–14

[Numbers in thousands]

Education cluster	Employment				Change			Total job openings due to growth and net replacements 2004–14 ¹	
	Number		Percent distribution		Number	Percent distribution	Percent		
	2004	2014	2004	2014				Number	Percent distribution
Total	145,612	164,540	100.0	100.0	18,928	100.0	13.0	54,680	100.0
High school occupations	19,164	21,100	13.2	12.8	1,935	10.2	10.1	6,834	12.5
High school/some college occupations	67,944	74,671	46.7	45.4	6,727	35.5	9.9	25,220	46.1
Some college occupations	218	279	.1	.2	61	.3	27.9	86	.2
High school/some college/college occupations	24,894	28,019	17.1	17.0	3,126	16.5	12.6	9,078	16.6
Some college/college occupations	16,470	20,031	11.3	12.2	3,561	18.8	21.6	6,563	12.0
College occupations	16,922	20,440	11.6	12.4	3,517	18.6	20.8	6,898	12.6

¹ Total job openings represent the sum of employment increases and net replacements. If employment change is negative, job openings due to growth are zero and total job openings equal net replacements.

NOTE: Detail may not equal total or 100 percent due to rounding.

Table I-2. Employment and total job openings by three education clusters, 2004–14

[Numbers in thousands]

Education cluster	Employment				Change			Total job openings due to growth and net replacements, 2004–14 ¹	
	Number		Percent distribution		Number	Percent distribution	Percent		
	2004	2014	2004	2014				Number	Percent distribution
Total	145,612	164,540	100.0	100.0	18,928	100.0	13.0	54,680	100.0
High school graduate or less.....	68,530	75,453	47.1	45.9	6,923	36.6	10.1	25,294	46.3
Some college	41,526	46,772	28.5	28.4	5,246	27.7	12.6	15,451	28.3
Bachelor's degree or higher	35,556	42,315	24.4	25.7	6,759	35.7	19.0	13,935	25.5

¹ Total job openings represent the sum of employment increases and net replacements. If employment change is negative, job openings due to growth are zero and total job openings equal net replacements.

NOTE: Detail may not equal total or 100 percent due to rounding

groups, jobs projected to go to those with a high school degree or less will predominate—accounting for 45.8 percent of all jobs in 2014 and 36.6 percent of new jobs created between 2004 and 2014. However, the fastest percentage growth in new jobs, 19.0 percent, will go to those with a bachelor's degree or higher. Taking replacement needs into consideration reveals that a greater proportion of total job openings are projected to be filled by workers with at least some college, rather than by those with a high school degree or less: approximately 53.7 percent of projected job openings will be filled by someone with some college or a bachelor's degree or higher, as opposed to 46.3 percent with a high school degree or less. Indeed, this figure is most likely an underestimate, because the assignment method described assumes no upgrading of educational requirements for occupations over the projection period.

In contrast to the foregoing results, using the 11 education and training categories set forth earlier leads to a very

different education profile for projected employment change: assigning all of the employment in occupations falling into categories 1–7 to “some college or more” results in only 45.1 percent of projected employment change falling into this education classification.

Results and applications of the two classification systems

Combining the two classification systems—the 11 education and training categories and the 6 educational attainment clusters—uses the strengths of each system to provide further insight into the education and training requirements of jobs. For example, both stonemasons and maids and housekeeping cleaners are high school (HS) occupations. However, stonemasons have long-term on-the-job training, and maids and housekeeping cleaners have short-term on-the-job training. Their respective earnings, in part, reflect the differences in training requirements: stonemasons' median annual earnings

Table I-3. Employment in 2004, by education or training category and education cluster

[Numbers in thousands]

Postsecondary education or training category, employment 2004	Education cluster, employment 2004											
	HS		HS/SC		SC		HS/SC/C		SC/C		C	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Total	19,164	13.2	67,944	46.7	218	.1	24,894	17.1	16,470	11.3	16,922	11.6
Short-term on-the-job training	12,924	8.9	31,594	21.7	5	.0	6,908	4.7	352	.2	–	–
Moderate-term on-the-job training	4,413	3.0	18,445	12.7	–	–	5,364	3.7	718	.5	9	.0
Long-term on-the-job training	1,674	1.1	7,225	5.0	–	–	881	.6	1,171	.8	74	.1
Work experience in a related occupation	154	.1	4,022	2.8	–	–	6,328	4.3	553	.4	–	–
Postsecondary vocational award	–	–	5,589	3.8	192	.1	1,387	1.0	657	.5	88	.1
Associate degree	–	–	850	.6	21	.0	383	.3	4,155	2.9	–	–
Bachelor's degree	–	–	–	–	–	–	1,754	1.2	6,054	4.2	9,231	6.3
Bachelor's or higher degree, plus work experience	–	–	220	.2	–	–	1,888	1.3	2,680	1.8	1,713	1.2
Master's degree	–	–	–	–	–	–	–	–	107	.1	2,040	1.4
Doctoral degree.....	–	–	–	–	–	–	–	–	22	.0	1,917	1.3
First professional degree....	–	–	–	–	–	–	–	–	–	–	1,849	1.3

Table I-4. Projected employment change, 2004-14, by education or training category and education cluster

[Numbers in thousands]

Postsecondary education or training category, projected employment change 2004-14	Education cluster, projected employment change 2004-14											
	HS		HS/SC		SC		HS/SC/C		SC/C		C	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Total	1,935	10.2	6,727	35.5	61	.3	3,126	16.5	3,561	18.8	3,517	18.6
Short-term on-the-job training	1,622	8.6	3,337	17.6	1	.0	883	4.7	68	.4	-	-
Moderate-term on-the-job training	104	.5	1,361	7.2	-	-	846	4.5	153	.8	2	.0
Long-term on-the-job training	200	1.1	440	2.3	-	-	121	.6	184	1.0	12	.1
Work experience in a related occupation	10	.1	479	2.5	-	-	452	2.4	116	.6	-	-
Postsecondary vocational award	-	-	970	5.1	52	.3	248	1.3	115	.6	19	.1
Associate degree	-	-	132	.7	7	-	53	.3	1,167	6.2	-	-
Bachelor's degree	-	-	-	-	-	-	206	1.1	1,253	6.6	1,880	9.9
Bachelor's or higher degree, plus work experience	-	-	9	.0	-	-	317	1.7	483	2.6	273	1.4
Master's degree	-	-	-	-	-	-	-	-	16	.1	390	2.1
Doctoral degree	-	-	-	-	-	-	-	-	6	.0	588	3.1
First professional degree	-	-	-	-	-	-	-	-	-	-	354	1.9

of \$34,980 in May 2004 were more than double the \$16,900 median annual earnings of maids and housekeeping cleaners. Similar differences exist within each education and training category.

Both stonemasons and police and sheriff's patrol officers generally require long-term on-the-job training. However, their educational attainment is quite different. Most stonemasons' highest level of educational attainment is a high school diploma or less; most police and sheriff's patrol officers have attended some college or completed college. Compared with stonemasons' median annual earnings of \$34,980 in May 2004, police and sheriff's patrol officers' median annual earnings of \$45,210 were higher. Again, the respective earnings in each of these two occupations, reflect in part, differences in educational attainment.

Table I-3 shows the distribution of 2004 total employment by both most significant source of postsecondary education or training category and educational attainment cluster. Table I-4 shows the same information, but focuses on how projected employment change will be distributed. Under both classification systems, the distribution of employment is expected to shift toward higher levels of education and training. Because projected job growth is faster in occupations classified into education or training categories specifying postsecondary vocational awards or higher levels of education, these jobs will gain relative share over the projection period.

Likewise, the proportion of jobs in occupations with educational attainment clusters specifying some college or higher will increase by 2014. This proportion is projected to grow in occupations that fall into 3 of the 4 highest educational attainment clusters: some college (SC), some col-

lege/college (SC/C) and college (C). For example, "college jobs" make up 11.6 percent of existing jobs, but will account for 18.6 percent of projected employment change. Employment in the full-mixture category, high school/some college/college (HS/SC/SC), is projected to increase slightly more slowly than average—by 12.6 percent, compared with 13.0 percent overall—resulting in a slightly smaller proportion of 2014 employment.

As previously mentioned, for each National Employment Matrix occupation, the most significant source of education or training, the educational attainment distribution, and the educational attainment cluster are listed in table IV-1 in Chapter IV of this edition of OPTD. However, table I-5 in the current chapter sorts occupations by educational cluster and, within each cluster, lists only those occupations which are both growing faster than the average for total employment—13.0 percent—and have annual earnings above the May 2004 median—\$28,770. These "high-wage, high-growth" occupations should provide good job opportunities for new entrants.

Although high-wage, high-growth occupations tend to be at the higher end of the educational spectrum, there are jobs which fit that description at every level of education and training. Many of the high-wage, high-growth occupations included in the high school (HS) cluster, such as tile and marble setters and reinforcing iron and rebar workers, are in construction. High-wage, high-growth occupations in the high school/some college (HS/SC) cluster are quite varied, but many (such as plumbers) also are construction occupations, and many are maintenance and repair occupations (for example, locksmiths) or transportation occupations (for instance, bus drivers). The high school/some college/college (HS/SC/

C) cluster includes high-wage/high-growth occupations in sales, such as real estate sales agents and sales representatives, as well as several technical, managerial, and other professional occupations, such as biological technicians, lodging managers, and cost estimators. Some college/college (SC/C) occupations that make the high-wage, high-growth list include occupations such as police officers, as well as some management occupations, such as chief executives, financial managers, and administrative services managers. Not surprisingly, high-wage, high-growth occupations in the college

(C) cluster include mostly professional occupations, such as teachers, engineers, and accountants and auditors.

Certainly, there are numerous other criteria that can be used to define high-wage, high-growth occupations, both in term of changing the earnings and employment growth cut-offs used or by including additional or alternative characteristics of occupations. The data provided in this publication give analysts the ability to sort occupations on the basis of a number of alternative specifications.

The educational attainment distribution of occupations: A note on methodology

The Office of Occupational Statistics and Employment Projections (OOSEP) estimates the educational attainment distribution of 25- to 44-year-olds for each of the detailed National Employment Matrix occupations, on the basis of data drawn from the Current Population Survey (CPS). The CPS surveys about 60,000 households each month and collects demographic and employment information on the civilian noninstitutional population aged 16 and older.

Publishing detailed educational attainment data requires a large sample size. To create publishable estimates of educational attainment, a sample with 3 years (2002–04) of combined data was used. With a 3 year sample, weighted CPS employment in the occupation must be at least 10,000 to be publishable. Of the 502 detailed CPS occupations, 404 reached this level of significance. The remaining 98 CPS occupations fell short of that minimum level. To reach a publishable level for those 98 occupations, the sample was expanded to include an additional 2 years of CPS data, covering the 2000–04 period. By expanding the sample, the publishable level of weighted employment fell from 10,000 to 7,000. Expanding the sample in this manner created publishable data for an additional 29 occupations, but still leaving 69 occupations without publishable data. Next, the age range of the sample was expanded from 25- to 44-year-olds to the 25-years-and-older age group for the 2000–04 period. Expanding the age range to 25 years and older created data for 33 more occupations, leaving 36 occupations without publishable data. The next step used to expand the 2000–04 sample was to include all workers aged 16 years and older in an occupation, instead of just those aged 25 and older. Expanding the age range to 16 years and older created data for another 5 occupations, leaving 31 without data. For the remaining 31 occupations, the original dataset that covered 25- to 44-year-olds for the 2002–04 period was used, but the educational attainment distribution for the occupation in question was replaced with data for the appropriate broader occupational group. The allocations underlying all of these estimates are available upon request.

Occupational information in the CPS is classified under a taxonomy that, while consistent with the 2000 Standard Occupational Classification (SOC) system, does not provide the full level of occupational detail available from the National Employment Matrix. The CPS occupational classification includes 502 occupations, while the 2004–14 National Employment Matrix published projections for 754 detailed SOC-consistent

occupations.

Because the CPS includes fewer occupations than the National Employment Matrix, proxy data must be used for some Matrix occupations. For example, marketing and sales managers are a single occupation in the CPS, but are two distinct occupations in the Matrix. In this case, Matrix data from 2004 were used to determine the prorated employment share of marketing managers out of total Matrix employment for marketing and sales managers combined. The number of marketing managers with some college was determined by multiplying the number of CPS-based marketing and sales managers by the computed share. The procedure for determining the employment levels by educational attainment for sales managers was applied in a similar fashion. Conversely, a few Matrix occupations represent aggregations of two or more CPS-based occupations. For each of these, the employment level by education was obtained by summing the educational attainment levels of each of the underlying CPS-based occupations.

Determining the 20-percent level of significance, described in exhibit 1, for the education cluster system required detailed research. When the educational cluster system was first developed and preliminary results were examined, three levels of significance were initially proposed: 15 percent, 20 percent, and 25 percent.

The first step in determining which level of significance to use involved studying the occupations that changed education cluster when the level of significance changed from 15 percent, to 20 percent, to 25 percent. Of the occupations that changed categories, most did so between the 15- and 20-percent levels of significance. Far fewer occupations shifted categories between the 20- and 25-percent levels of significance. As the level of significance rises, the number of occupations in mixture clusters—for example, high school/some college (HS/SC), as opposed to high school (HS)—falls. An initial examination of the data suggested that the 20-percent level of significance provided the most logical and reasonable cluster assignment for occupations with well-defined training paths.

The selection of the 20-percent level of significance also relied on the occupational expertise of analysts who develop employment projections and related information for the Occupational Outlook Handbook (OOH) and other OOSEP publications.

Table I-5. High-wage, high-growth occupations, by educational attainment cluster and earnings
(Numbers in thousands)

2004 national employment matrix code and title		Employment		Employment change, 2004-14		May 2004 median annual earnings	Most significant source of postsecondary education or training	Educational attainment cluster
		2004	2014	Number	Percent			
47-2051	Cement masons and concrete finishers	201	233	32	15.9	\$31,400	Moderate-term on-the-job training	HS
47-2181	Roofers	162	189	27	16.8	30,840	Moderate-term on-the-job training	HS
47-2044	Tile and marble setters	59	73	14	22.9	35,410	Long-term on-the-job training	HS
47-2071	Paving, surfacing, and tamping equipment operators	63	73	10	15.6	29,990	Moderate-term on-the-job training	HS
51-9122	Painters, transportation equipment	53	61	7	14.1	35,120	Long-term on-the-job training	HS
47-2171	Reinforcing iron and rebar workers ²	34	38	5	14.1	35,160	Long-term on-the-job training	HS
47-2022	Stonemasons	22	25	3	13.0	34,980	Long-term on-the-job training	HS
27-2032	Choreographers	19	22	3	16.8	33,670	Work experience in a related occupation	HS
49-3092	Recreational vehicle service technicians	13	15	3	19.5	28,980	Long-term on-the-job training	HS
49-9042	Maintenance and repair workers, general	1,332	1,533	202	15.2	30,710	Moderate-term on-the-job training	HS/SC
47-2031	Carpenters	1,349	1,535	186	13.8	34,900	Long-term on-the-job training	HS/SC
49-3023	Automotive service technicians and mechanics	803	929	126	15.7	32,450	Postsecondary vocational award	HS/SC
29-2061	Licensed practical and licensed vocational nurses	726	850	124	17.1	33,970	Postsecondary vocational award	HS/SC
47-2152	Plumbers, pipefitters, and steamfitters	499	577	78	15.7	41,290	Long-term on-the-job training	HS/SC
33-2011	Fire fighters	282	351	69	24.3	38,330	Long-term on-the-job training	HS/SC
49-9021	Heating, air conditioning, and refrigeration mechanics and installers	270	321	51	19.0	36,260	Long-term on-the-job training	HS/SC
43-6012	Legal secretaries	272	319	47	17.4	36,720	Postsecondary vocational award	HS/SC
37-1011	First-line supervisors/managers of housekeeping and janitorial workers	236	281	45	19.0	29,510	Work experience in a related occupation	HS/SC
53-3021	Bus drivers, transit and intercity	190	231	41	21.7	29,730	Moderate-term on-the-job training	HS/SC
49-3031	Bus and truck mechanics and diesel engine specialists	270	309	39	14.4	35,780	Postsecondary vocational award	HS/SC
39-1021	First-line supervisors/managers of personal service workers	206	244	38	18.3	30,350	Work experience in a related occupation	HS/SC
43-3051	Payroll and timekeeping clerks	214	251	37	17.3	30,350	Moderate-term on-the-job training	HS/SC
53-1031	First-line supervisors/managers of transportation and material-moving machine and vehicle operators	228	262	35	15.3	44,810	Work experience in a related occupation	HS/SC
37-1012	First-line supervisors/managers of landscaping, lawn service, and groundskeeping workers	184	217	33	17.8	35,340	Work experience in a related occupation	HS/SC
47-4051	Highway maintenance workers	143	177	33	23.3	29,550	Moderate-term on-the-job training	HS/SC
29-2055	Surgical technologists	84	109	25	29.5	34,010	Postsecondary vocational award	HS/SC
35-1011	Chefs and head cooks	125	146	21	16.7	30,680	Work experience in a related occupation	HS/SC
49-3011	Aircraft mechanics and service technicians	119	135	16	13.4	45,290	Postsecondary vocational award	HS/SC
51-8031	Water and liquid waste treatment plant and system operators	94	110	15	16.2	34,960	Long-term on-the-job training	HS/SC
43-5031	Police, fire, and ambulance dispatchers	95	111	15	15.9	28,930	Moderate-term on-the-job training	HS/SC
17-3022	Civil engineering technicians	94	107	13	14.1	38,480	Associate degree	HS/SC
47-4041	Hazardous materials removal workers	38	50	12	31.2	33,320	Moderate-term on-the-job training	HS/SC
47-2221	Structural iron and steel workers	73	83	11	15.0	42,430	Long-term on-the-job training	HS/SC
49-2098	Security and fire alarm systems installers	47	57	10	21.7	33,410	Postsecondary vocational award	HS/SC
53-4031	Railroad conductors and yardmasters	38	45	8	20.3	46,340	Moderate-term on-the-job training	HS/SC
47-2121	Glaziers	49	56	7	14.2	32,650	Long-term on-the-job training	HS/SC
53-6099	Transportation workers, all other	52	60	7	13.9	32,170	Short-term on-the-job training	HS/SC
17-3025	Environmental engineering technicians	20	25	5	24.4	38,550	Associate degree	HS/SC
49-9094	Locksmiths and safe repairers	28	33	5	16.1	30,360	Moderate-term on-the-job training	HS/SC
49-9062	Medical equipment repairers	29	34	4	14.8	37,220	Associate degree	HS/SC
47-4071	Septic tank servicers and sewer pipe cleaners ²	20	24	4	21.8	28,870	Moderate-term on-the-job training	HS/SC
47-4021	Elevator installers and repairers	22	25	3	14.8	58,710	Long-term on-the-job training	HS/SC
49-3051	Motorboat mechanics	23	26	3	15.1	30,660	Long-term on-the-job training	HS/SC
49-9096	Riggers ³	13	14	2	13.9	35,330	Short-term on-the-job training	HS/SC
33-3011	Bailiffs	18	20	2	13.2	33,870	Moderate-term on-the-job training	HS/SC
49-9011	Mechanical door repairers	11	12	2	15.8	32,000	Moderate-term on-the-job training	HS/SC
11-9071	Gaming managers ¹	4	5	1	22.6	58,580	Work experience in a related occupation	HS/SC
53-4041	Subway and streetcar operators ²	9	10	1	13.7	49,290	Moderate-term on-the-job training	HS/SC
39-4011	Embalmers ²	9	10	1	15.7	35,540	Postsecondary vocational award	HS/SC

See footnotes at end of table.

Table I-5. High-wage, high-growth occupations, by educational attainment cluster and earnings — Continued
(Numbers in thousands)

2004 national employment matrix code and title		Employment		Employment change, 2004–14		May 2004 median annual earnings	Most significant source of postsecondary education or training	Educational attainment cluster
		2004	2014	Number	Percent			
53-1011	Aircraft cargo handling supervisors	8	9	1	17.4	34,100	Work experience in a related occupation	HS/SC
53-6041	Traffic technicians	6	7	1	14.1	33,670	Short-term on-the-job training	HS/SC
31-2011	Occupational therapist assistants ²	21	29	7	34.1	38,430	Associate degree	SC
11-1021	General and operations managers	1,807	2,115	308	17.0	77,420	Bachelor's plus experience	HS/SC/C
41-3099	Sales representatives, services, all other	380	452	71	18.7	47,000	Moderate-term on-the-job training	HS/SC/C
41-4011	Sales representatives, wholesale and manufacturing, technical and scientific products	397	454	57	14.4	58,580	Moderate-term on-the-job training	HS/SC/C
11-9141	Property, real estate, and community association managers	361	416	55	15.3	39,980	Bachelor's degree	HS/SC/C
41-9022	Real estate sales agents	348	400	51	14.7	35,670	Postsecondary vocational award	HS/SC/C
41-9099	Sales and related workers, all other	226	267	42	18.4	31,380	Moderate-term on-the-job training	HS/SC/C
13-1031	Claims adjusters, examiners, and investigators	250	288	38	15.1	44,220	Long-term on-the-job training	HS/SC/C
25-2012	Kindergarten teachers, except special education	171	209	38	22.4	41,400	Bachelor's degree	HS/SC/C
13-1051	Cost estimators	198	234	36	18.2	49,940	Work experience in a related occupation	HS/SC/C
43-4161	Human resources assistants, except payroll and timekeeping	172	200	29	16.7	31,750	Short-term on-the-job training	HS/SC/C
27-2042	Musicians and singers	189	216	26	14.0	37,130	Long-term on-the-job training	HS/SC/C
47-4011	Construction and building inspectors	94	115	21	22.3	43,670	Work experience in a related occupation	HS/SC/C
29-2099	Healthcare technologists and technicians, all other	85	104	19	22.9	34,230	Postsecondary vocational award	HS/SC/C
13-2099	Financial specialists, all other	127	145	18	14.4	49,540	Bachelor's degree	HS/SC/C
39-6031	Flight attendants	102	119	17	16.3	43,440	Long-term on-the-job training	HS/SC/C
19-4099	Life, physical, and social science technicians, all other	83	100	17	20.0	37,840	Associate degree	HS/SC/C
27-2099	Entertainers and performers, sports and related workers, all other	76	92	16	21.0	34,800	Long-term on-the-job training	HS/SC/C
19-4021	Biological technicians	64	75	11	17.2	33,210	Associate degree	HS/SC/C
11-9081	Lodging managers	58	68	10	16.6	37,660	Work experience in a related occupation	HS/SC/C
29-1031	Dietitians and nutritionists	50	59	9	18.3	43,630	Bachelor's Degree	HS/SC/C
27-4011	Audio and video equipment technicians	46	55	8	18.1	32,570	Long-term on-the-job training	HS/SC/C
43-9031	Desktop publishers ²	34	41	8	23.2	32,340	Postsecondary vocational award	HS/SC/C
39-1011	Gaming supervisors	38	44	6	16.3	40,840	Work experience in a related occupation	HS/SC/C
19-4091	Environmental science and protection technicians, including health	31	36	5	16.3	35,340	Associate degree	HS/SC/C
19-4092	Forensic science technicians	10	13	4	36.4	44,010	Associate degree	HS/SC/C
23-2091	Court reporters	18	21	3	14.8	42,920	Postsecondary vocational award	HS/SC/C
27-4099	Media and communication equipment workers, all other ⁴	19	23	3	17.0	41,120	Moderate-term on-the-job training	HS/SC/C
19-4061	Social science research assistants	18	21	3	17.4	34,360	Associate degree	HS/SC/C
19-4011	Agricultural and food science technicians	23	26	3	13.4	29,730	Associate degree	HS/SC/C
13-1032	Insurance appraisers, auto damage	13	15	2	16.6	45,330	Long-term on-the-job training	HS/SC/C
27-4014	Sound engineering technicians	13	16	2	18.4	38,110	Postsecondary vocational award	HS/SC/C
19-4051	Nuclear technicians ⁴	7	8	1	13.7	59,200	Associate degree	HS/SC/C
29-2091	Orthotists and prosthetists	6	7	1	18.0	50,260	Bachelor's degree	HS/SC/C
29-1111	Registered nurses	2,394	3,096	703	29.4	52,330	Associate degree	SC/C
13-1199	Business operation specialists, all other	897	1,139	242	27.0	53,460	Bachelor's degree	SC/C
15-1051	Computer systems analysts	487	640	153	31.4	66,460	Bachelor's degree	SC/C
15-1081	Network systems and data communications analysts	231	357	126	54.6	60,600	Bachelor's degree	SC/C
15-1041	Computer support specialists	518	638	119	23.0	40,430	Associate degree	SC/C
15-1071	Network and computer systems administrators	278	385	107	38.4	58,190	Bachelor's degree	SC/C
33-3051	Police and sheriff's patrol officers	639	738	99	15.5	45,210	Long-term on-the-job training	SC/C
11-3031	Financial managers	528	606	78	14.8	81,880	Bachelor's plus experience	SC/C
11-3021	Computer and information systems managers	280	353	73	25.9	92,570	Bachelor's plus experience	SC/C
29-2021	Dental hygienists	158	226	68	43.3	58,350	Associate degree	SC/C
23-2011	Paralegals and legal assistants	224	291	67	29.7	39,130	Associate degree	SC/C
11-1011	Chief executives	444	510	66	14.9	140,350	Bachelor's plus experience	SC/C
11-2022	Sales managers	337	403	66	19.7	84,220	Bachelor's plus experience	SC/C
25-3021	Self-enrichment education teachers	253	317	64	25.3	30,880	Work experience in a related occupation	SC/C
11-9111	Medical and health services managers	248	305	57	22.8	67,430	Bachelor's plus experience	SC/C

See footnotes at end of table.

Table I-5. High-wage, high-growth occupations, by educational attainment cluster and earnings — Continued
(Numbers in thousands)

2004 national employment matrix code and title		Employment		Employment change, 2004–14		May 2004 median annual earnings	Most significant source of postsecondary education or training	Educational attainment cluster
		2004	2014	Number	Percent			
13-1071	Employment, recruitment, and placement specialists	182	237	55	30.5	41,190	Bachelor's degree	SC/C
11-3011	Administrative services managers	268	314	45	16.9	60,290	Bachelor's plus experience	SC/C
13-1073	Training and development specialists	216	261	45	20.8	44,570	Bachelor's degree	SC/C
29-2034	Radiologic technologists and technicians	182	224	42	23.2	43,350	Associate degree	SC/C
13-1079	Human resources, training, and labor relations specialists, all other	166	206	40	24.1	47,530	Bachelor's degree	SC/C
11-2021	Marketing managers	188	228	39	20.8	87,640	Bachelor's plus experience	SC/C
29-2012	Medical and clinical laboratory technicians	147	183	37	25.0	30,840	Associate degree	SC/C
27-1024	Graphic designers	228	263	35	15.2	38,030	Bachelor's degree	SC/C
29-2011	Medical and clinical laboratory technologists	156	188	32	20.5	45,730	Bachelor's degree	SC/C
29-1071	Physician assistants	62	93	31	49.6	69,410	Bachelor's degree	SC/C
21-1099	Community and social service specialists, all other	98	129	31	32.0	32,530	Bachelor's degree	SC/C
17-2112	Industrial engineers	177	205	28	16.0	65,020	Bachelor's degree	SC/C
15-1099	Computer specialists, all other	149	177	28	19.0	59,480	Associate degree	SC/C
29-1126	Respiratory therapists	94	120	27	28.4	43,140	Associate degree	SC/C
31-2021	Physical therapist assistants	59	85	26	44.2	37,890	Associate degree	SC/C
41-3011	Advertising sales agents	154	180	25	16.3	40,300	Moderate-term on-the-job training	SC/C
13-2021	Appraisers and assessors of real estate	102	125	23	22.8	43,390	Postsecondary vocational award	SC/C
31-9011	Massage therapists	97	120	23	23.6	31,960	Postsecondary vocational award	SC/C
13-1072	Compensation, benefits, and job analysis specialists	99	119	20	20.4	47,490	Bachelor's degree	SC/C
21-2021	Directors, religious activities and education	90	107	17	18.5	30,700	Bachelor's degree	SC/C
33-1012	First-line supervisors/managers of police and detectives	100	115	16	15.5	64,430	Work experience in a related occupation	SC/C
33-3021	Detectives and criminal investigators	91	106	15	16.4	53,990	Work experience in a related occupation	SC/C
29-2032	Diagnostic medical sonographers	42	57	15	34.8	52,490	Associate degree	SC/C
25-3011	Adult literacy, remedial education, and GED teachers and instructors	98	113	15	15.6	38,980	Bachelor's degree	SC/C
29-2031	Cardiovascular technologists and technicians	45	60	15	32.6	38,690	Associate degree	SC/C
27-2012	Producers and directors	83	97	14	16.6	52,840	Bachelor's plus experience	SC/C
27-1014	Multi-media artists and animators	94	107	13	14.1	50,360	Bachelor's degree	SC/C
11-3041	Compensation and benefits managers	57	70	12	21.5	66,530	Bachelor's plus experience	SC/C
33-1021	First-line supervisors/managers of fire fighting and prevention workers	56	68	12	21.1	58,920	Work experience in a related occupation	SC/C
27-3042	Technical writers	50	62	12	23.2	53,490	Bachelor's degree	SC/C
21-1091	Health educators	49	60	11	22.5	38,480	Master's degree	SC/C
11-3049	Human resources managers, all other	62	72	10	15.9	81,810	Bachelor's plus experience	SC/C
11-3042	Training and development managers	37	47	10	25.9	67,460	Bachelor's plus experience	SC/C
27-1025	Interior designers	65	75	10	15.5	40,670	Associate degree	SC/C
13-1121	Meeting and convention planners	43	52	10	22.2	39,620	Bachelor's degree	SC/C
13-2031	Budget analysts	58	65	8	13.5	56,040	Bachelor's degree	SC/C
33-9021	Private detectives and investigators	43	50	8	17.7	32,110	Work experience in a related occupation	SC/C
13-1081	Logisticians	53	60	7	13.2	57,110	Bachelor's degree	SC/C
15-1011	Computer and information scientists, research	22	28	6	25.6	85,190	Doctoral degree	SC/C
27-3099	Media and communication workers, all other	39	46	6	15.7	40,850	Long-term on-the-job training	SC/C
13-2071	Loan counselors	34	40	6	17.7	33,970	Bachelor's degree	SC/C
27-3091	Interpreters and translators	31	37	6	19.9	33,860	Long-term on-the-job training	SC/C
17-2111	Health and safety engineers, except mining safety engineers and inspectors	27	30	4	13.4	63,730	Bachelor's degree	SC/C
29-1124	Radiation therapists ¹	15	19	4	26.3	57,700	Associate Degree	SC/C
29-2033	Nuclear medicine technologists	18	22	4	21.5	56,450	Associate degree	SC/C
27-2021	Athletes and sports competitors	17	21	4	21.1	48,310	Long-term on-the-job training	SC/C
27-4032	Film and video editors	20	24	4	18.6	43,590	Bachelor's degree	SC/C
27-4031	Camera operators, television, video, and motion picture	28	32	4	14.2	37,610	Moderate-term on-the-job training	SC/C
53-2021	Air traffic controllers	24	28	3	14.3	102,030	Long-term on-the-job training	SC/C
17-2031	Biomedical engineers ²	10	13	3	30.7	67,690	Bachelor's degree	SC/C
17-3019	Drafters, all other	24	27	3	14.0	41,860	Postsecondary vocational award	SC/C
19-1013	Soil and plant Scientists	17	19	2	13.9	51,200	Bachelor's degree	SC/C

See footnotes at end of table.

Table I-5. High-wage, high-growth occupations, by educational attainment cluster and earnings — Continued
(Numbers in thousands)

2004 national employment matrix code and title		Employment		Employment change, 2004–14		May 2004 median annual earnings	Most significant source of postsecondary education or training	Educational attainment cluster
		2004	2014	Number	Percent			
13-1061	Emergency management specialists	10	13	2	22.8	45,390	Work experience in a related occupation	SC/C
27-1029	Designers, all other	16	18	2	13.6	42,250	Bachelor's degree	SC/C
53-2022	Airfield operations specialists	5	6	1	15.0	36,680	Long-term on-the-job training	SC/C
25-1000	Postsecondary teachers	1,628	2,153	524	32.2	51,800	Doctoral degree	C
25-2021	Elementary school teachers, except special education	1,457	1,722	265	18.2	43,160	Bachelor's degree	C
13-2011	Accountants and auditors	1,176	1,440	264	22.4	50,770	Bachelor's degree	C
15-1031	Computer software engineers, applications	460	682	222	48.4	74,980	Bachelor's degree	C
25-2031	Secondary school teachers, except special and vocational education	1,024	1,172	148	14.4	45,650	Bachelor's degree	C
15-1032	Computer software engineers, systems software	340	486	146	43.0	79,740	Bachelor's degree	C
29-1060	Physicians and surgeons	567	702	136	24.0	145,600	First professional degree	C
13-1111	Management analysts	605	727	122	20.1	63,450	Bachelor's plus experience	C
23-1011	Lawyers	735	845	110	15.0	94,930	First professional degree	C
25-2022	Middle school teachers, except special and vocational education	628	714	86	13.7	43,670	Bachelor's degree	C
29-1051	Pharmacists	230	287	57	24.6	84,900	First professional degree	C
29-1123	Physical therapists	155	211	57	36.7	60,180	Master's degree	C
21-1021	Child, family, and school social workers	272	324	52	19.0	34,820	Bachelor's degree	C
25-2041	Special education teachers, preschool, kindergarten, and elementary school	205	253	48	23.3	43,570	Bachelor's degree	C
27-3031	Public relations specialists	188	231	43	22.9	43,830	Bachelor's degree	C
13-2052	Personal financial advisors	158	199	41	25.9	62,700	Bachelor's degree	C
15-1061	Database administrators	104	144	40	38.2	60,650	Bachelor's degree	C
17-2051	Civil engineers	237	276	39	16.5	64,230	Bachelor's degree	C
19-3021	Market research analysts	190	227	37	19.6	56,140	Bachelor's degree	C
21-1012	Educational, vocational, and school counselors	248	285	37	14.8	45,570	Master's degree	C
13-2051	Financial analysts	197	231	34	17.3	61,910	Bachelor's degree	C
11-9151	Social and community service managers	134	169	34	25.5	46,810	Bachelor's degree	C
19-3031	Clinical, counseling, and school psychologists	167	199	32	19.1	54,950	Doctoral degree	C
25-9031	Instructional coordinators	117	149	32	27.5	48,790	Master's degree	C
29-1122	Occupational therapists	92	123	31	33.6	54,660	Master's degree	C
21-1023	Mental health and substance abuse social workers	116	147	31	26.7	33,920	Master's degree	C
21-1022	Medical and public health social workers	110	139	29	25.9	40,080	Bachelor's degree	C
11-9033	Education administrators, postsecondary	132	160	28	21.3	68,340	Bachelor's plus experience	C
17-2199	Engineers, all other	172	198	27	15.4	74,430	Bachelor's degree	C
21-1014	Mental health counselors	96	122	26	27.2	32,960	Master's degree	C
11-9041	Engineering managers	190	215	25	13.0	97,630	Bachelor's plus experience	C
19-1042	Medical scientists, except epidemiologists	72	97	25	34.1	61,320	Doctoral degree	C
25-2043	Special education teachers, secondary school	138	163	25	17.9	45,700	Bachelor's degree	C
27-3043	Writers and authors	142	167	25	17.7	44,350	Bachelor's degree	C
17-1011	Architects, except landscape and naval	129	151	22	17.3	60,300	Bachelor's degree	C
21-1011	Substance abuse and behavioral disorder counselors	76	98	22	28.7	32,130	Master's degree	C
25-2042	Special education teachers, middle school	98	118	19	19.9	44,160	Bachelor's degree	C
27-3041	Editors	127	146	19	14.8	43,890	Bachelor's degree	C
29-1021	Dentists, general	128	145	17	13.5	123,060	First professional degree	C
29-1199	Health diagnosing and treating practitioners, all other	72	88	16	22.5	57,970	Bachelor's degree	C
11-9031	Education administrators, preschool and child care center/program	58	75	16	27.9	35,730	Bachelor's plus experience	C
25-9099	Education, training, and library workers, all other	77	92	16	20.5	29,720	Bachelor's degree	C
17-2081	Environmental engineers	49	64	15	30.0	66,480	Bachelor's degree	C
53-2011	Airline pilots, copilots, and flight engineers	84	98	14	17.2	129,250	Bachelor's degree	C

See footnotes at end of table.

Table I-5. High-wage, high-growth occupations, by educational attainment cluster and earnings — Continued
(Numbers in thousands)

2004 national employment matrix code and title		Employment		Employment change, 2004–14		May 2004 median annual earnings	Most significant source of postsecondary education or training	Educational attainment cluster
		2004	2014	Number	Percent			
29-1127	Speech-language pathologists	96	110	14	14.6	52,410	Master's degree	C
11-2011	Advertising and promotions managers	64	77	13	20.3	63,610	Bachelor's plus experience	C
19-2041	Environmental scientists and specialists, including health	73	86	13	17.1	51,080	Master's degree	C
29-9099	Healthcare practitioners and technical workers, all other	55	68	13	23.8	33,360	Postsecondary vocational award	C
11-2031	Public relations managers	58	70	12	21.7	70,000	Bachelor's plus experience	C
29-1011	Chiropractors	53	64	12	22.4	69,910	First professional degree	C
21-1029	Social workers, all other	64	76	12	19.6	39,440	Bachelor's degree	C
29-1131	Veterinarians	61	71	11	17.4	66,590	First professional degree	C
41-9031	Sales engineers	74	84	10	14.0	70,620	Bachelor's degree	C
17-1022	Surveyors	56	65	9	15.9	42,980	Bachelor's degree	C
29-1041	Optometrists	34	40	7	19.7	88,410	First professional degree	C
11-9121	Natural sciences managers ¹	42	48	6	13.6	88,660	Bachelor's plus experience	C
21-1013	Marriage and family therapists	24	30	6	25.4	38,980	Master's degree	C
21-1019	Counselors, all other	25	31	6	23.1	34,990	Master's degree	C
11-9039	Education administrators, all other	26	31	5	20.3	60,250	Bachelor's plus experience	C
19-1029	Biological scientists, all other	29	34	5	17.0	56,270	Bachelor's degree	C
19-3051	Urban and regional planners	32	37	5	15.2	53,450	Master's degree	C
17-1012	Landscape architects	25	30	5	19.4	53,120	Bachelor's degree	C
19-2099	Physical scientists, all other	29	33	4	14.6	80,150	Bachelor's degree	C
15-2011	Actuaries	18	22	4	23.2	76,340	Bachelor's plus experience	C
53-2012	Commercial pilots	22	26	4	16.8	53,870	Postsecondary vocational award	C
29-1129	Therapists, all other	24	28	4	15.0	40,180	Bachelor's degree	C
29-9091	Athletic trainers	15	19	4	29.3	33,940	Bachelor's degree	C
19-1021	Biochemists and biophysicists	16	20	3	21.0	68,950	Doctoral degree	C
19-2043	Hydrologists	8	11	3	31.6	61,510	Master's degree	C
19-1099	Life scientists, all other	15	19	3	20.6	55,430	Bachelor's degree	C
19-1022	Microbiologists	15	18	3	17.2	54,840	Doctoral degree	C
29-1081	Podiatrists ²	10	12	2	16.2	94,400	First professional degree	C
19-1023	Zoologists and wildlife biologists	16	19	2	13.0	50,330	Bachelor's degree	C
17-1021	Cartographers and photogrammetrists	11	12	2	15.2	46,080	Bachelor's degree	C
25-4012	Curators	10	12	2	15.7	43,620	Master's degree	C
29-9012	Occupational health and safety technicians	12	14	2	17.1	42,130	Postsecondary vocational award	C
25-9011	Audio-visual collections specialists	9	11	2	18.6	32,990	Moderate-term on-the-job training	C
29-1022	Oral and maxillofacial surgeons	6	7	1	16.2	145,600	First professional degree	C
19-2021	Atmospheric and space scientists ¹	7	9	1	16.5	70,100	Bachelor's degree	C
19-1041	Epidemiologists	5	6	1	26.2	54,800	Master's degree	C
23-1022	Arbitrators, mediators, and conciliators	5	6	1	15.5	54,760	Bachelor's plus experience	C
19-3091	Anthropologists and archeologists	5	6	1	17.0	43,890	Master's degree	C
25-4011	Archivists	6	7	1	13.4	36,470	Master's degree	C
25-4013	Museum Technicians and Conservators	10	12	1	14.1	31,820	Master's degree	C
29-1024	Prosthodontists	1	1	0	13.6	145,600	First professional degree	C
19-3032	Industrial-organizational psychologists	2	3	0	20.4	71,400	Master's degree	C

¹ Denotes that the source is CPS data for 25- to 44-year-olds over the 2000–04 period. CPS weighted employment exceeds 7,000.

² Denotes that the source for educational attainment information is CPS data for age 25-years-and-older age group over the 2000–04 period. CPS weighted employment exceeds 7,000.

³ Denotes that the source is CPS data for age 16-years-and-older age

group over the 2002–04 period. CPS weighted employment exceeds 7,000.

⁴ Denotes that the source is the data for the summary occupation at one level of detail higher. The source for the summary occupation is CPS data for 25- to 44-year-olds over the 2002–04 period. CPS weighted employment exceeds 10,000.